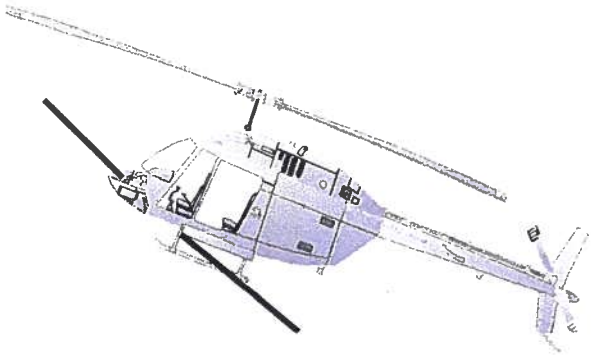

Blackwater National Wildlife Refuge

Gypsy Moth Suppression Project

SAFETY PLAN 1995

WHEN AN ACCIDENT OCCURS

Immediate Actions To Be Taken

1. Rescue survivors and render first aid.

2. Immediately notify local emergency services if communications are available at the accident site. If not, contact Project Operations Center; who will notify local emergency services.

3. Secure the site.

4. After immediate threat of danger has passed, refer to the safety plan for more detailed procedures.

EMERGENGY SERVICES

County Emergency Services: (410) **228-3223**
Dorchester Co. Health Department
County Dispatcher

State Police: (Emergency **911**)
(410) **228-3101**
Cambridge, MD

Fire Departments: (Emergency 911)
(410) **228-2222** or **2223**
Dorchester Fire Control

(410) **228-1861**
Church Creek Fire Tower

Poison Control Center: 1-800-**492-2414**

Center for Oil/Toxic Chemical Spills: 1-800-**424-8802**

BLACKWATER NATIONAL WILDLIFE REFUGE GYPSY MOTH SUPPRESSION PROJECT

SAFETY PLAN 1995

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INTRODUCTION

This Safety Plan is specific for the aerial application of the pesticide Bacillus thuringrensis var .kurstaki (BTK) for gypsy moth suppression. The goals of this Safety Plan are to:

1. Eliminate all avoidable accidents.

2. Identify and eliminate hazardous conditions whenever possible.

3. Promote safety awareness, responsibility and accountability.

4. Create and maintain positive attitudes in all employees toward personal health and safety.

This Safety Plan covers the following areas:

1. Provides guidance in proper methods of storing, transporting, mixing, applying and disposing of pesticides. This guidance is designed to minimize the potential for adverse human health and environmental effects associated with the use of pesticides.

2. Prescribes specific communication and transportation actions to be taken in the event of an emergency.

3. Detailed action to be taken during or after the pesticide application, if there is evidence of illness or physical reaction to the pesticide.

4. Provides the names and telephone numbers of the nearest hospital facilities, ambulance services and fire companies to be contacted in case of an emergency in the vicinity of the treatment area.

5. Includes a list of pesticide ingredients, appropriate precautionary label statements, and EPA Registration Number of the pesticide to enable prompt and accurate transmission of the information in case of accident or illness.

6. List of known antidotes to reduce or eliminate possible hazards to humans and other non-target organisms from accidental pesticide spills or misapplications.

Regardless of how thorough this Safety Plan may appear, each person on the project should be constantly alert to detect any unsafe practices and provide immediate corrective action to eliminate or deter these acts. Injuries can occur in a fraction of a second.

GENERAL SAFETY

All project personnel should be: (1) fully acquainted with hazards of pesticide-use; (2) understand the importance of personal hygiene; (3) use protective clothing and devices that are prescribed on the pesticide label or required by U.S. NF&WS and /or U.S. Forest Service; and (4) always be sure somebody knows where you are working.

Persons working on projects involving the use of pesticides should become familiar and comply with the project Safety Plan. A copy of this project Safety Plan should be in the possession of each person working on this project. A general reference source for pesticide safety is "PESTICIDE SAFETY - GUIDELINES FOR PERSONAL PROTECTION", Publication FPM 83-1, USDA Forest Service, Forest Pest Management, Washington Office.

A Job Safety and Health Hazard Analysis, Form FS-6700-7 (1/86), has been included in the Appendices. It assists in identifying the hazards on the project and identifies ways to eliminate, or least minimize them.

In general, the pesticides used for this project have low to no toxicity to humans, but unnecessary contact should be avoided. Some people are hypersensitive to certain compounds. Personnel who have a known chemical hypersensitivity to compounds being used should not work on this project. Refer to the Material Safety Data Sheets included in the Appendices to see what compounds are being used, and their potential hazards.

Supervisors should be informed of any allergies or medications a crew member may have, so that in the event of an emergency an EMT or physician can be alerted and can provide the appropriate aid to the person.

The health and safety precautions to be followed when using a pesticide include:

Reading the label on all pesticide containers and following recommended mixing and use directions, ~~and~~ safety practices provided on the label and in the project Safety Plan.

Keeping visitors and other non-project persons, pets, and livestock out of loading and storage sites and areas ~~in which~~ where application is in process.

Washing hands with soap and water immediately after contact with chemicals before handling food or tobacco substances. DO NOT EAT, DRINK, OR SMOKE WHILE USING PESTICIDES!

Washing work clothes daily and changing into clean clothing when not on duty.

Handling containers of pesticides and/or diluting with care to avoid personal injury. Use barrel rolls when applicable.

Cleaning up spilled pesticides immediately after securing the safety of persons on the project.

Supplying persons directly involved with handling pesticide containers or spill clean-up with unlined liquid-proof gloves and boots. Gloves should cover the wrists and boots should extend above the ankle. Long sleeve shirts and pants must be worn.

Ensuring that mixing, loading, and application crews have eye protection available for use.

Avoiding skin contact with pesticides or breathing of pesticide dusts or vapors at all times.

FOOT TRAVEL

Field crews will constantly be traveling by foot to reach some balloon marking sites. Be certain that permission has been granted from land owners in advance of crossing private property.

BLISTERS - Break in boots before using them heavily. Keep laces tight and wear heavy socks. Treat broken blisters to avoid infection.

FATIGUE, EXHAUSTION - Workers should be in good shape. If not, some form of exercise should be scheduled before the field season starts. When in the field, minimize heavy supplies being carried where possible, and divide work so as to minimize any extra unnecessary trips.

STEEP SLOPES, WET LOGS AND ROCKS - Watch where you step and don't hurry in hazardous terrain. Sturdy work boots should be worn with a minimum height of 8" with Vibram type soles.

WORKING IN HOURS OF DARKNESS - Because of the irregular working hours associated with aerial spraying, it may not be possible to arrange your schedule to minimize the need to be in the woods in the dark. Pick your easiest unobstructed route, such as walking down a woods road or open trail. If time permits, reconnoiter the area of work during daylight hours. Flashlights will be made available to all field personnel: always carry an extra set of batteries.

DISORIENTATION IN THE WOODS - Note obvious landmarks and directions, and familiarize yourself with the maps before entering the area. Use the maps, compasses and radio if necessary to keep track of where you are. If you become disoriented, don't

panic. Find a road or, as a last resort, a drainage and follow it until you can find where you are and orient yourself to the map.

WALKING THROUGH BRUSH - Avoid these areas when the light conditions are poor. If carrying filled balloons, you may have to go around brushy areas to avoid puncturing them. Be alert for branch stubs and sticks, and wear a hard-hat and eye protection. Heavy canvas duck clothing is recommended in areas with briars or other thorny vegetation. Full balloons cannot be carried through thorny vegetation if it is higher than thigh level.

FENCES - Cross at gates or near posts and use extreme caution. Puncture wounds can easily become infected or cause tetanus, so treat them seriously. Be alert to electric and barbed wire fences.

WORKING DURING HUNTING SEASON - Crew members will wear orange safety vests whenever working in the woods.

VEHICLE TRAVEL AND EQUIPMENT

Field crews will be doing a lot of driving from one area to the next. Operators are responsible for driving defensibly, to avoid accident situations created by the mistakes of others, or by weather and road conditions.

VEHICLE TRAVEL - Always use defensive driving techniques and limit speeds to those appropriate to the vehicle and the road you are traveling. Drive only on roads that are appropriate for the vehicle you are driving. You won't save time if you get stuck or have an accident to avoid a half mile walk. Wear your seat belts at all time while the vehicle is in motion and also, do not carry filled balloons around in the driving compartment of the vehicle. Watch out for animals trying to cross the road.

Conduct daily vehicle safety checks. Each vehicle shall carry a first aid kit, fire extinguisher and accident report form kit.

HELIUM TANKS - Tanks should be blocked securely in a vehicle to avoid rolling around and under NO circumstances will the regulator be left on the tank when the vehicle is in motion. If small portable tanks are used, care should be taken to avoid dropping or striking them against any object, and again, do not transport them with the regulators attached. If a valve does break or a tank ruptures, get behind the nearest and sturdiest cover possible, as pressurized tanks can become extremely dangerous and often fatal projectiles!

AVIATION SAFETY MEASURES

1. No spectators will be allowed in the loading and fueling area (Operations Area). Spectators will be prohibited within 100 feet of the Operations Area.

2. Smoking, or use of matches or lighters, will not be permitted within 50 feet of any fueling or loading operations.

3. Operations Area will be cordoned off and signed "Authorized Personnel Only" and "No Smoking".

4. All landing approaches and departure routes will be kept clear of vehicles and personnel.

5. All loose gear in the area of the helispot susceptible to rotor downwash shall be secured or removed.

6. Wind indicator (such as a wind sock) is required.

7. Operations Area for the aircraft will have a first-aid kit, a clean water source and fire extinguisher.

8. Static grounds will be provided for both the loading and refueling operations.

9. Ear and eye protection will be used.

10. Hats will be secured by a chin strap or not worn at all.

11. Approach or leave aircraft only when authorized by pilot or authorized personnel. When approaching or leaving helicopters remain in full view of the pilot and keep in a crouched position. Do not approach an aircraft under the wing or around the propellers.

12. Prior to any refueling operations, all aircraft passengers will be off-loaded.

13. Pilots and any passengers will use seat belts and when available, shoulder restraints.

14. Fire resistant (nomex) clothing will be worn by pilots of application and any observation aircraft, and by any aerial observers that will be flying below 500 feet.

15. Communication to the pilot during take off and landing is prohibited except in an emergency, ie.,; sighting of other unidentified low flying aircraft in a danger path or sighting of flames or fire on the aircraft. Remain CALM and report your sightings clearly.

16. Provisions will be made to apply calcium chloride or water for dust reduction at

helispot area.

17. All specifications in the application contract will be adhered to regarding aircraft operations, safety and communications.

BIOLOGICAL HAZARDS

All personnel involved with this project will be confronted with this type of hazard and must be aware of the following elements.

ALLERGY TO GYPSY MOTH - This is unavoidable working in epidemic populations,and is often not known until a person comes in contact with this situation. Though normally not serious, the possibility should be made clear to potential employees. An allergy usually manifests itself as a red rash, and can be minimized by wearing long clothing and protecting the collar and wrist/ankle area. Treat the rash with antihistamine lotion.

STINGING INSECTS, POISON IVY - Wear long clothing and watch where you are walking, sitting or reaching. Ointments can be used to lessen the effects of poison ivy. Make your co-workers aware of any allergies you have to bee stings and make sure they know where your antidote is kept. Keep an eye out for hornets constructing nests and stay clear of them. A bee sting can be fatal.

BITING INSECTS - Ticks, biting flies and mosquitoes will be the major pests on this project. This nuisance can be minimized by wearing long clothing and using insect repellent.

POISONOUS SNAKES - Watch out for rattlesnakes and copperheads in the spring on warm exposed spots, especially along timber roads, or stream banks. Wear high boots and chaps or heavy, loose fitting pants, and look before stepping over logs or climbing hand over hand on rocks. Copperheads require special care because they are well camouflaged and do not have any warning mechanism like a rattlesnake. In the event of a bite, remain calm and take the most direct route back to the vehicle with a partner so he/she can drive the bitten victim to the closest medical facility.

WILD ANIMALS - Give wild and domestic animals a wide berth, particularly if they have young nearby. It is also possible that the wildlife you come upon may have rabies, so don't go near or attempt to touch them.

IN THE EVENT AN ACCIDENT SHOULD OCCUR WITH THE ABOVE HAZARDS,

Follow these procedures in order of priority:

1. Administer first aid to the victim. Use personal protective equipment while trying to stop any bleeding. If help is needed, contact the closest available unit to you for assistance.

2. Transport victim to nearest hospital.

3. Contact your work supervisor as soon as possible. Supervisor should have information on each crew members emergency data including home telephone number, and who to contact in event of emergency, as well as allergy information, blood type, etc.

4. Once the injured person is received by medical personnel, try to recall the sequence of events leading to the accident. Stay at the hospital until you are notified by medical personnel that you can leave.

5. Fill out a CA-1 and any other necessary reporting forms within 24 hours of the accident.

6. Review the situation and take corrective action to avoid similar actions in the future.

FIRST AID - PESTICIDES

Exposure to pesticides may occur through four routes of entry which are: (1) oral, (2) respiratory, (3) dermal, and (4) through cuts or abrasions in the skin. Current guides on pesticide poisoning such as "Recognition and Management of Pesticide Poisonings" (U.S. Environmental Protection Agency, EPA-540/9-80-005, January 1982) provide emergency instructions for recognizing and treating poisoning by pesticides. These guides should be readily available and consulted when needed.

In the event that a pesticide is accidentally swallowed, spilled on the skin, or splashed into the eyes, follow label directions or other emergency medical instructions provided by a poison control center, hospital, or other medical facility.

Initial first aid action that should be taken is as follows:

1. If a pesticide is swallowed, call a physician immediately and get medical care as quickly as possible (see Appendix F):

2. If pesticide is splashed in an eye, wash the eye with clean water immediately and continue washing for about 20 minutes, and not less than 15 minutes. Speed is essential to prevent injury to th eye.

This is one reason to have clean water on-hand during any pesticide project. An eye-wash apparatus should be located at each site where handling pesticides is taking place. Have the eye examined by a physician immediately.

3. If pesticide is spilled on the skin, immediately wash the skin thoroughly with soap and water. Remove contaminated clothing. Put on clean clothing. Everyone should carry an extra change of clothes in their vehicle. Use plenty of soap and clean water to cleanse the skin, hair, and fingernails.

SINCE THE SYMPTOMS OF PESTICIDE POISONING VARY DEPENDING ON THE EXPOSURE, AN INDIVIDUAL FEELING ABNORMAL IN ANYWAY SHOULD REPORT IMMEDIATELY TO THE ON-SITE PROJECT SUPERVISOR.

When emergency medical information or assistance is needed, and a telephone is not readily available, use a project radio to make contact with persons who can then follow through with providing advanced notification to a physician's office or medical facility.

ACCIDENT AND INCIDENT REPORTING PROCEDURES

1. Notification Procedures: As used in this Safety Plan, ACCIDENT shall mean: (1) destruction or substantial damage to a vehicle, (2) minor, serious, or fatal injury to persons working on the project, whether Forest Service employees, Contractor employees, or other persons.

As used in this Safety Plan, INCIDENT shall mean any mishap, malfunction, or situation involving vehicles or persons on the project which results in a deviation from standard procedures, or has the potential of resulting in an accident.

Notification procedures should follow standard operating channels. The employee initiates notification procedures by notifying:

Name: Brad Onken

Phone: (304) **285-1546**/(301) 509-**6582**

Who notifies

Name: Helen Machesky / Steve Smith

Phone: (304) **285-1548**

Who notifies

Name: Dan Zimmerman

Phone: (610) **975-4200**

2. Reporting Accidents and Incidents. Telephone notification reports on pesticide accidents and incidents must be followed by written Report FS-21000-D, Pesticide Accident and Incident Report, giving as applicable, the facts according to the reporting outline prescribed in FSH 2109.12, Chapter 50, 52-1 and any other reporting forms that may be required by other agencies involved in the suppression project.

In summary, these facts include:

Location of accident or incident.

Ownership of property involved.

Pesticide involved: common name, quantity of total mix spilled,quantity of active pesticide product spilled, quantity of active ingredient spilled, EPA Registration Number of product.

Weather conditions at time of accident or incident.

Vegetation and animal species involved.

If humans were involved, obtain a written statement from the attending physician.

Pesticide spill clean-up measures taken.

Special problems encountered during pesticide spill clean-up.

Description of accident or incident including events immediately preceding and relating to the accident or incident. (Include soil type and moisture conditions if they have a bearing on absorption or movement of the pesticide in the soil.

Local, State and other Federal agencies notified of accident or incident.

Action taken to coordinate corrective measures with other agencies.

Record of sample:
- What was collected (carcass, plant material, water, soil, etc.).
- Time and date of samples.

If a Forest Service employee, volunteer, human resource program enrollee, job corp enrollee, visitor, contract employee, or permittee is involved in an accident that involves the Forest Service and results in death, injury, illness, and/or property damage, consult FSM 6730 "ACCIDENT REPORTING AND INVESTIGATION", for appropriate reporting and investigating procedure.

SAFETY PRECAUTIONS DURING PROJECT IMPLEMENTATION

The responsibility for transporting, storing, applying, and disposing of pesticides is of the contractor.

Contractors must abide by Federal OSHA and State Safety requirements. However, if any project personnel observes unsafe practices that could adversely affect employee health or the environment, the COR has the following responsibilities (FSH 6309.11).

- The project personnel shall not ignore obvious safety hazards or violations. If the violation or hazard presents imminent threat of serious injury, the project coordinator shall point them out to the contractor.

- Persistent violations or any serious violations shall be reported to the

project coordinator.

- Failure to practice an acceptable conduct of safety by Contractor or Government personnel shall be documented and, if necessary, work shall be suspended until deficiencies are corrected.

The Forest Service has a responsibility to identify hazards and to require the contractor to minimize hazards.

1. Application Equipment. Frequent inspections for leakage or overflow of pesticides from storage tanks, pumps, or hose lines should be conducted. An air gap or anti-siphon device between the water source and the mixing tank is required. Mixing of spray solutions should be done away from streams, drains, or ditches leading to streams and only in areas where major spills would be absorbed by the soil before reaching a stream.

Protection needed for handling the pesticide during mixing is 8" high-top boots, rubber gloves, and goggles.

In addition to ensuring that appropriate protective clothing is worn, and that application equipment is maintained in safe operating condition, special effort should be made to familiarize the applicator(s) with the project area.

2. Pesticide Handling. The following safety guidelines should be followed during specific pesticide handling activities:

a. Pesticide Storage

(1) Pesticide product Material Safety Data Sheets (MSDS) are attached to this Safety Plan. MSDS should be posted at locations where pesticides are stored temporarily during project implementation.

(2) Pesticide must be stored separately from other pesticides in well ventilated, cool, dry, secured storage areas. Herbicide should be stored in rooms separate from insecticides or fungicides to avoid contamination of the insecticide or fungicide with the herbicide. Special precautions for storing a pesticide will be described in the product's MSDS.

(3) Post identification and warning signs on storage facilities (trailers, tankers, buildings, etc.) to advise of the contents of the stored material.

(4) Protect pesticides from inclement weather or direct sunlight. Excessive heat can cause expansion of pesticides, resulting in container rupture or overflow.

(5) Keep on-hand at least 10 gallons of clean water and soap for decontamination of workers. If more than 3 people are involved with on-site project activities, a minimum of 20 gallons should be on-hand. This water must be stored separately from that used for mixing with a pesticide, and labeled as "WASHWATER ONLY".

(6) Provide an ABC type fire extinguisher which is readily available to the storage facility.

(7) Store empty pesticide containers in secured manner until final disposal.

(8) Keep surplus pesticides in the original container if at all possible. Repackaging from broken containers must meet the same standards as the original container if they are to be transported. In some situations, such as a pesticide fire or spillage, pesticides may be stored and transferred for short distances in nonstandard containers.

(9) Select sites for storage that will prevent contamination of streams, ponds, cisterns, food stocks, or agricultural crops adjacent to work areas.

(10) Safely store all Forest Service supplied empty pesticide containers immediately after use while arranging for disposal.

b. Transportation of Pesticide.

(1) Transport from the storage area only the quantity of pesticide needed for the day's operations, and return any leftover pesticide to the storage area at the end of the day.

(2) Do not leave vehicles that are transporting pesticides unattended unless the pesticides are in a secured area.

(3) Transport pesticides, with the label signal words "Danger", "Poison", or "Warning", in a section of the vehicle totally isolated from drivers or passengers. Trucks with bed decking made of wood should not be used, as spills in these trucks will probably require complete replacement of the platform planking for complete decontaminaiton.

(4) Secure containers to prevent tipping or excess jarring during transit.

(5) Cover pesticide containers to protect them from direct sunlight

while in transit to the work site and place them out of direct sunlight when on-site.

(6) Do not, under any circumstances, transport pesticide containers in the same cargo area with food, livestock feeds, or clothing.

(7) Shipping papers (for the most part, the pesticide label) covering amounts of pesticide being transported, number and size of containers, product name, chemical name, and the EPA Registration Number must accompany the pesticide(s) when they are being transported.

(8) Avoid travel adjacent to streams with loaded pesticide batchtrucks by careful planning of routes. No more spray volume than necessary should be transported along these routes. Parking of trucks next to streams or lakes should be avoided whenever possible both at time of spray application and in downtime between application periods.

(9) Hip boots or chestwaders should also be carried to permit working in contaminated surface water. The COR or site inspectors should normally carry this equipment in the vehicle.

(10) A roll of plastic sheeting should also be available on the tanker or accompanying vehicles. This material could also be useful immediately after a spill for ditch damming or construction of a seepage-proof sump for pumping.

(11) Open containers must never be transported.

c. Pesticide Mixing

(1) Mixing of pesticide formulations should be done away from streams, lakes, drains, ditches or other open water. Soil types and depth to groundwater should also be factors considered when selecting mixing locations. To the extent practical, select sites where soil types and depths to ground water would reduce the potential of ground water contamination in the event of pesticide spillage.

(2) Personal protective equipment must always be used when mixing and loading pesticides. This includes eye protection, boots, and unlined rubber gloves.

Eye wash safety bottles should also be located in mixing and loading areas, strictly for use in the event a pesticide is spilled or sprayed into the eyes. `Water from the eye wash bottles should never be used for any other purpose.

d. Pesticide Disposal. The following precautions should be taken in disposing of waste pesticide materials and containers:

(1) Rinse empty containers three times with the pesticide carrier and pour the washings back into the spray tank for application to the project target area as a pesticide treatment. The volume of diluent should be 10% of the container volume for each rinse.

(2) Do not reuse empty pesticide containers for unauthorized use. Encourage the pesticide supplier to recycle empty containers (generally done with larger drums).

(3) After the containers have been properly rinsed, they are to be disposed of at a state-approved sanitary landfill. Empty containers should not be allowed to accumulate.

(4) Punch holes in metal and plastic containers and break glass containers when depositing them in a sanitary landfill to ensure against reuse.

(5) Handle empty pesticide containers and waste material with the same caution accorded the active ingredient, including the use of protective clothing.

(6) Move the containers to the disposal site with extreme care.

3. Pesticide Spills. When a spill occurs, immediately determine if any person is injured or has come in contact with the pesticide. Each situation may differ, but the major and immediate effort should be to assist injured personnel and minimize further contamination. Accordingly, the following must be accomplished as rapidly as possible:

a. Remove injured persons from the site to a safe area.

b. Remove contaminated clothing from the injured, and others if necessary, and wash the individuals with detergent and water or clean as specified by the manufacturer.

c. Immediately seek medical assistance for injured and contaminated persons. Do not leave injured or contaminated individuals alone.

A small unplanned discharge of pesticide (less than 1 gallon of formulation) resulting from equipment failure, such as a leaky nozzle, or other minor mechanical problem, is not considered a spill. However, do not allow leaks in the pesticide application or mixing equipment to continue.

Spilled pesticides must be contained as much as possible on the site where the spill occurs. The spilled pesticide must be kept from entering wells, ditches, or other water

systems.

In the event of a spill:

The objective is to take immediate action to minimize the spill contamination until additional help and equipment can assist in completing clean-up.

The action taken will be commensurate with the size and location of the spill and will include some or all of the following steps:

(a) Wear appropriate protective apparel from the spill kit. This includes eye protection, coveralls or rain suit, and rubber boots or overshoes and gloves.

(b) Prevent further leakage by positioning the pesticide container, or by applying a seal to the leak with rags, tape or other material at hand.

(c) Separate leaking containers from other containers.

(d) Take appropriate action to prevent unprotected persons from coming in contact with the spilled pesticide.

(e) Confine the spill to prevent it from spreading. Encircle the spill area with a dike of sand, absorbent material, or as a last resort dirt or rags if necessary, dig a ditch to direct the spill flow away from sensitive areas.

(f) If a spill involves a small water course, a dam of activated charcoal can be used to filter the water. For larger waterways, baled straw may be used to contain the spill. Dam or divert the flow of clean water around the spill if possible.

(g) Cover the spill with an absorbent material if the spill is liquid (Note: Absorbent materials must be disposed of as waste pesticide).

(h) Sawdust may be mixed with spilled pesticide to absorb the spill. This material should be transferred to metal containers and transported to a disposal site prescribed by the COR.

If the spill occurs in the vicinity of swampland or other wet terrain which would become contaminated, farm lime should be used to treat the affected area. If spill occurs near stream, absorbent and contaminated soil shall be removed from immediate area.

Prevent ignition of flammable materials by eliminating sources of ignition for example: exhausts, electric motors, gasoline engines, cigarettes.

If needed, secure available equipment to build ponding areas so that spill does not reach waterways. Under no circumstances should this construction equipment be used if the operator is not qualified to operate the equipment.

Initiate environmental monitoring as soon as is practical. The degree of urgency for environmental monitoring is directly related to the amount of pesticide spilled and its location to sensitive areas and species.

Emergency information on the handling of the spill of a specific pesticide is available on a 24-hour basis from the National Pesticide Telecommunications Network (NPTN), toll free at 1-800-**858-7378.**

All numbers Bold print

If additional emergency information is needed, the Chemical Transportation Emergency Center (CHEMTREC) can provide assistance in conducting an emergency clean-up of large spills of pesticides or other hazardous chemicals. If the NPTN is unable to provide the necessary emergency information, they will contact the CHEMTREC. CHEMTREC can be contacted, toll-free, at 1-800-**424-9300**.

ALL numbers Bold print

Pesticide Responsibilities Under Contract

The contractor is responsible for spill containment and clean up under the direction of the COR.

The contractor's personnel should be equipped and trained to take proper action in an emergency. The primary responsibility rests with the Contractor to control spills, minimize contamination, and conduct clean-up operations. Spills resulting from the actions of the Contractor should be contained and corrected by the Contractor.

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Pesticide spills may present an emergency situation requiring cooperation of all parties. The contractor will be provided with any needed information and assistance to insure protection of human health and the environment.

If the contractor fails to initiate action on a spill, the COR or project supervisor shall initiate corrective action.

As soon as is practical, follow the direction described under "ACCIDENT AND INCIDENT REPORTING PROCEDURES" section.

After spill containment or clean-up, decontaminate equipment or other items contaminated with pesticide. Decontaminate tools, vehicles, concrete slabs, etc. with a solution consisting of: 1) one quart sodium hypochlorite plus one cup detergent in two gallons of water, 2) 5% sodium carbonate (soda ash) solution plus detergent, or 3) 5% trisodium phosphate solution plus detergent. Scrub thoroughly and follow with a clean water rinse. Inspect surrounding area for possible contamination and leave entire area safe and in usable condition.

APPENDIX A

AIRCRAFT PRE-ACCIDENT

PLAN

AIRCRAFT PRE-ACCIDENT PLAN AND HAZARD MAP INSTRUCTIONS

Although no one conducts aviation operations with the intent of having an accident, the possibility is always there. When an accident does happen, one very common factor occurs and that is confusion. The unit that has control of one or more aircraft can preplan most of the things that must take place in the event of an accident. This should eliminate most of the confusion that usually occurs and assist in expediting search and rescue efforts.

Another key element in safe aviation operations is the assurance tht all flight crews are familiar with the known flight hazards of the area in which they will be operating.

The last two pages of Appendix A provides guidelines for extablishing a hazard map for your local area.

General:

This plan establishes the actions to take in the event of an overdue aircraft, an aircraft accident or incident.

The scope of this plan outlines the basic procedures necessary to activate all emergency search, crash and rescue services as well as associated support activities as rapidly and orderly as possible.

The plan is broken down into three categories: **OVERDUE AIRCRAFT, CRASHED AIRCRAFT ON, AND OFF AN AIRPORT/ HELIPORT.** Each category lists actions to take and references either Appendix B, C, or D for phone numbers and sequence. Do not delay notification because one or two items in the Appendix are unknown at the time - **GET THE BALL ROLLING**; keep accurate written log and fill in the blanks as best you can.

"SOMEONE'S LIFE MAY DEPEND ON IT!"

OVERDUE AIRCRAFT

1. Obtain available information outlined in Appendix B.

Make Area Code the same format

2. Call Project Operations Center (301) **509-6582**.

   Who will :

   A. Call local FAA Flight Service Station. Phone Number (410) **787-0040** .

   B. Notify Regional Aviation Safety Officer. Name Greg Frederick .
   Phone Number (414) **297-3744** .

   C. Notify Regional Aviation Office. Phone Number (414-**297-3744** .

      (1) Local Law Enforcement. Phone Number (410) **228-3101** .

OVERDUE AIRCRAFT

CRASHED AIRCRAFT - OFF AIRPORT/HELIPORT

1. Rescue Survivors - Render First Aid.
2. Coordinate local crash/rescue, if available.
3. Witnesses of aircraft accident will complete actions in Appendix D.
4. Complete actions in Appendix D.
5. Get information in Appendix C.
6. Call Project Operations Center Name Brad Onken .
   Phone Number (301-**509-6582** .

   delete

   A. Who will Notify Regional Aviation Safety Officer. Name Greg Frederick .
      Office (414-**297-3744** .

   B. Notify Regional Aviation Office. Office (414) **297-3744** .

   insert "-"

CRASHED AIRCRAFT - OFF AIRPORT/HELIPORT

CRASHED AIRCRAFT - ON AIRPORT/HELIPORT

1. Call local crash/rescue, if available. Phone number Emergency - **911**.
2. Rescue survivors - render first aid.
3. Evacuate injured.
   A. Notify hospital, doctor. Phone Number (410)-**228-5511**.
   B. Notify local law enforcement. Phone Number (410) **228-3101**
4. Complete actions in Appendix D.
5. Get information in Appendix C.
6. Call:
   A. Regional Aviation Safety Officer. Name Greg Frederick.
      Office (414)-**297-3744**.
   B. Regional Aviation Office. Office (414)-**297-3744**.

CRASHED AIRCRAFT - ON AIRPORT/HELIPORT

LOCAL OPERATIONAL AREA HAZARD MAP

Aircraft operating at the low altitudes are subject to a high risk mishap environment. Several wire strikes, often culminating in a catastrophic accident, occur within flight operations each year. To minimize this risk, a detailed knowledge of the area to be flown and the awareness of the many obstacles which may be encountered is an essential part of the accident prevention program.

The development of a Local Operational Area Hazard Map, with constant updating as changes occur, will help in increasing the pilot's awareness of existing "wire" or "obstacle" hazards which may be encountered during operations at low altitudes.

The following is recommended:

1. A map scale of 1/2" to the mile or as close as you can get.
2. Cover with a hard, clear plastic sheet to facilitate nonpermanent hazard notations.
3. Post hazard map where all pilots are briefed and shown the map.
4. Assure that all pilots are briefed and shown the map.
5. Obtain current information from the materials/agencies listed below:
   A. Federal Aviation Administration (FAA):
      (1) Notice to Airmen on parachute operations.
      (2) Glider operation.
      (3) Military low-level operations.
      (4) Areas of extreme turbulence.

   B. Sectional Aeronautical Charts and FAA Flight Service Station for low-level military training routes (MTR).

6. Utilize the legend on the following page for hazard marking.

HAZARD	LEGEND HIGHLIGHTER COLOR	SYMBOL
Powerlines/Wire & Cable Crossings	Red	(railraod tracks)
Towers	Red	(red dot)
Aerial Activities	Yellow	(yellow highlite w/hashlines)
Military Routes	Red	(wide solid red line)
Airports	Yellow	(yellow color runway)
Heliports	Yellow	(yellow dot)
Restricted Areas	Red	(line through a row of x's)
Known Extreme Turbulence	Red	(contour line of e's)

HAZARD MAP INSTRUCTIONS

APPENDIX B

AIRCRAFT INFORMATION

AIRCRAFT INFORMATION

Date_____ Local Time _____

1. Name of Pilot.
2. Names of passengers/crew members (how many?)
3. Aircraft tail number.
4. Type of aircraft.
5. Color of aircraft.
6. Type Mission.
7. Last known point of takeoff.
8. Last known location.
9. Point of intended landing.
10. Was flight plan filed with FAA?
11. Was flight following being accomplished?
12. Time aircraft was due at destination.
13. Name, telephone number and location of person coordinating location effort.

NOTE: Aircraft is considered overdue 30 minutes after filed arrival time or position report.

REMARKS:

APPENDIX C

AIRCRAFT INITIAL INCIDENT/ ACCIDENT

REPORT FORM

USDA Forest Service AIRCRAFT INITIAL REPORT (REF. FSM 5714)	Type of Report ___Incident ___Accident	Region *	Report Date *

3. DATE AND TIME OF ACCIDENT *	4. WHERE DID ACCIDENT OCCUR (LOCATION) *

5. AIRCRAFT IDENTIFICATION	A. MAKE *	B. MODEL *	C. REGISTRATION # *
	D. TYPE & MODEL OF ENGINE (S) *		E. OWNER'S NAME *

6. PERSONNEL	A. LIST NAMES OF PILOT AND PASSENGERS *
7. DEATHS AND INJURIES	A. LIST NAMES OF PERSONS KILLED OR INJURED, AND INDICATE TYPE OF INJURIES *

8. MISSION (PURPOSE FOR WHICH AIRCRAFT WAS BEING USED)
*

9. CONDITIONS AT ACCIDENT SITE	A. TERRAIN: *	B. ELEVATION (MSL): *
	C. WEATHER: *	D. TEMPERATURE (F): *

10. BRIEF RESUME AND POSSIBLE CAUSE OF ACCIDENT:

11. EXTENT OF DAMAGE:
*

12. REMARKS:
*

REPORTED BY (NAME AND TITLE): *	DATE: *

FS 5700-14 (2/84)

APPENDIX C

APPENDIX D

AIRCRAFT RESCUE INSTRUCTIONS

AIRCRAFT RESCUE INSTRUCTIONS

At an aircraft crash site, the National Transportation Safety Board (NTSB), has officially stated and declared that all crash sites are considered contaminated and injuries inflicted from debris could be fatal, based from HIV & Hepatitis B research reports. It is very critical that these sites be handled with the utmost care from the time of the accident until properly-clothed investigators arrive at the site. The least disturbed the crash site remains, the easier it becomes to investigate the cause.

1. Rescue:

   A. Assist survivors and render first aid until relieved by medical personnel.

   B. If there is any danger of post crash fire -- move survivors a safe distance away.

   C. Keep bystanders and unauthorized personnel out of crash area.

   D. Establish a "No Smoking" rule. Fire and explosion is a "real" danger with residual fuel and hot metals.

2. Search the wreckage carefully for other survivors.

3. Notify the Aviation Safety Officer direct.

4. Preserve the accident site. The area to be quarantined shall not be less than 300 feet in diameter (length of a football field) and encompasses the entire wreckage. Every piece of the aircraft and its location is important to the investigators. Nothing should be disturbed. Use local law enforcement to secure site.

5. **Identify witnesses:

   A. Obtain written statements, if possible.

   B. Names, addresses, phone numbers.

**This is a very critical element.

APPENDIX E

FLIGHT SERVICES

FLIGHT SERVICES

FAA FLIGHT SERVICE:	Leesburg, VA	(800) **942-7433**
	Baltimore office	(410) **787-0040**

AIRPORTS:	Cambridge Airport Rt. 50/Aireys Road Cambridge, MD	(410) **228**-4571
	Easton Airport Rt. 50 & Woods Road Cambridge, Md	(410) **822-8560**

APPENDIX F

APPENDIX F

EMERGENCY SERVICES IN PROJECT AREA

EMERGENCY SERVICES

COUNTY EMERGENCY SERVICES: Dorchester Co. Health Dept. (410) **228-3223**
Rt. 50 & Woods Rd, Cambridge, MD

HOSPITALS: Dorchester General Hospital (410) **228-5511**
300 Byrn St., Cambridge, MD

SHERIFF'S DEPARTMENT: (Emergency **911**)
Dorchester Co. Sheriff (410) **228-4142**
829 Fieldcrest Rd., Cambridge, MD

STATE POLICE: (Emergency **911**)
MD State Police (410) **228-3101**
503 Court Lane, Cambridge, MD

FIRE DEPARTMENTS: Dorchester Fire Control (410) **228-2222/2223**

Church Creek Fire Tower (410) **228-1861**
(MD Forest Service)

all bold

POISON CONTROL CENTER: 1-800-**492-2414**

all bold

CENTER FOR OIL/TOXIC CHEMICAL SPILLS: 1-800-**424-8802**

APPENDIX G

JOB HAZARD ANALYSIS

USDA Forest Service JOB HAZARD ANALYSIS (Instructions on Reverse & Ref. FSH 6709.12)	1. Primary Job/Project GYPSY MOTH PROJECT	2. Location Blackwater National Wildlife Refuge	3. Unit FHP
	4. Name of Analyst Karen D. Felton	5. Job Title of Analyst Forestry Technician	6. Date Prepared 4/11/95

7. Tasks/Procedures	8. Hazards	9. Abatement Actions Engineering Controls * Substitution * Admin Controls * PPE
Handling Heavy Tanks and Drums	Strains and Fractures	Use mechanical lifting devices, avoid strains, wear gloves and wear hard-toe boots.
Helium Tanks	Compressed Gas/Strains	Anchor tanks when transporting in vehicles; protect valves; avoid dropping. Escaping gas could cause container to become a projectile.
Filling Balloons with Helium	Balloon Rupture	Inspect balloon before inflation for defects; do not over-inflate.
Foot Travel	Fatigue	Divide heavy loads. Take breaks. Stay in shape.
	Night Travel	Recon during daylight. Use head lamps. Notify landowner in advance. Wear hard hat and eye protection. Flashlights
	Getting Lost	Use landmarks for guidance. Follow land feature, i.e., streams. Trust the compass.
	Falling	Learn to fall. Wear good boots (8-inch tops, lug soles, leather).
	Hunting Seasons	Wear fluorescent colors.
	Forest Vegetation	Wear hard hats, eye protection, canvas clothing.
	Fences	Cross at gates or near posts; do not stretch wire. Avoid barbs with clothing; wear gloves. Consider all electric fences to be live.
Aircraft	Propeller	Stay at least 100 feet away from aircraft. Approach only with approval of pilot.
Handling Pesticides	Exposure	Flag handling area and post signs; have wash and first aid equipment on site.
	Hypersensitivity	Hypersensitive people should not be employed for the project. 36
	Mixing	Eye protection and gloves are required. Head cover and respirators are optional.
Exposure to:	Gypsy Moths	Hairs from moths can cause irritations to the skin and airway. Wear long-sleeved shirts and use respirators if hairs are in the air.
	Biting/Stinging Insects	Blouse pants; wear long-sleeved shirts; apply repellant; check for ticks frequently.
	Poison Ivy	Ivy prevention cream before exposure is optional. Wash affected area. Wash clothes separately.
	Poisonous Snakes	Wear high top leather boots; loose fitting clothes; watch where stepping. Bite victims should be taken to hospital rather than treated in the field.
		Snake chaps are optional.
Vehicle Travel	Good Conditions	Limit speed; plan your route; watch for objects in your path, i.e., deer, children, rocks, etc.; drive defensively; wear seat belts. *
	Reduced Visibility Conditions Due to Poor Light, Rain, Dust, Fog, Etc.	Drive with lights on all of the time when visibility is reduced. Wear seat belts. Drive defensively.
		* Only current licensed drivers
	Parking	Make sure vehicle is safely off road

10. Approved by	11. Title	12. Date
Bradley P. Orr	Forest Supt	4/11/95

Previous edition is obsolete (over) FS-6700-7 (2/94)

APPENDIX H

TOXICOLOGY PROFILES

Material Safety Data Sheets (MSDS)
and Product Labels for Pesticides
being used on this project

Biological Insecticide

DiPel® 6AF

MATERIAL SAFETY DATA SHEET

Abbott Laboratories
Chemical & Agricultural Products Division
North Chicago, IL 60064
Emergency Telephone: 1-708-937-6100
Chemtrec: 1-800-424-9300

Issue Date: 05/18/92
TSCA Status: Exempt
Approval:
List/Code: 5529/15526
Product Name: **U.S.:** DiPel 6AF **Canada:** DiPel 48AF
Chemical Name: *Bacillus thuringiensis* ssp. *kurstaki*
DOT Classification: Not Regulated

HAZARDOUS INGREDIENTS/IDENTITY INFO.

NAME (CAS NO.)	OSHA PEL	ACGIH TLV	ABBOTT LIMIT
Bacillus thuringiensis, ssp. *kurstaki* (DiPel Technical Powder) (68038-71-1)	NL	NL	N/D
Mixture considered hazardous per OSHA criteria	NL	NL	N/D

PHYSICAL PROPERTIES

Appearance: Tan to brown suspension
Solubility: Dispersible in water
Boiling Point: N/D
Melting Point: N/A
pH: 4.7 +/- 0.3
Vapor Pressure: N/A
Vapor Density: N/A
Density: 1.14 +/- 0.04 g/ml
Viscosity: 170-800cp @ 25°C

FIRE AND EXPLOSION DATA

Flash Point: N/D
Extinguishing Media: Use appropriate medium for underlying cause of fire
Special Fire Fighting Procedures: Wear protective clothing and self-contained breathing apparatus
Unusual Fire/Explosion Hazards: N/D

REACTIVITY

Incompatibility: Alkalinity inactivates product
Hazardous Decomposition or By-products: N/D
Conditions to Avoid: N/D

HEALTH HAZARD DATA

Routes of Entry: Inhalation - N/D Skin - No Ingestion - No
Oral Toxicity: LD50 >5,000 mg/kg in rats. No signs of toxicity were observed
Dermal Toxicity: LD50 >2,000 mg/kg in rabbits. No signs of toxicity were observed
Inhalation Toxicity: N/D. Five human volunteers inhaled 100 mg of *B.t.* ssp. *kurstaki* per day for five days without ill effect. Inhaled *B.t.* organisms may remain viable until cleared by host defense systems but are not pathogenic

DiPel 6AF

MATERIAL SAFETY DATA SHEET

HEALTH HAZARD DATA (continued)

Corrosiveness:	No
Dermal Irritation:	Slightly irritating in a skin irritation test in rabbits; reversible within 9 days
Ocular Irritation:	Irritant. Slightly to moderately irritating in an eye irritation test in rabbits; reversible within 7 days
Dermal Sensitization:	Sensitizer. Considered to be a sensitizer in a skin sensitization study in guinea pigs
Special Target Organ Effects:	None found in people. In subchronic oral toxicity studies in rats and sheep and a 2-year chronic oral toxicity study in rats, with DiPel Technical Powder no significant treatment-related effects were observed. In a 4-week inhalation study in guinea pigs, animals receiving 0.2 mg/l DiPel Technical Powder exhibited evidence of inflammation and reduced adrenal weights; two of twenty animals died (NOEL = 0.02 mg/l or 20 mg/m3)
Carcinogenicity:	NTP - NL IARC - NL OSHA - NL ACGIH - NL
Signs/Symptoms of Exposure:	N/D. Data suggest skin or eye irritation and allergic skin reactions are possible. Inhalation may result in respiratory tract irritation
Medical Conditions Aggravated by Exposure:	Pre-existing eye, skin or lung lesions
Emergency/First Aid Procedures:	Remove from source of exposure. If skin or eye contact occurs flush with copious amounts of water. If irritation persists or signs of toxicity occur, seek medical attention. No known antidote. Provide symptomatic/supportive care as necessary

SPECIAL PROTECTION INFORMATION

Ventilation:	Use local ventilation
Respirator:	Approved dust/mist respirator (as required)
Gloves:	Rubber
Eye Protection:	Chemical goggles or safety glasses
Other Protection:	N/D

SPECIAL HANDLING AND STORAGE

Special Precautions:	Avoid excessive storage temperatures and direct sunlight (above 90°F)
Spill or Release Procedures:	Sweep up product, place into appropriate container for disposal. Avoid dust. Ventilate and wash spill area
Waste Disposal:	Dispose of product in accordance with federal, state, and local regulations
Other Handling:	N/D

LEGEND

N/A = Not Applicable	C = Ceiling
N/D = Not Determined	S = Short Term
NL = Not Listed	(R) = A registered trademark of Abbott Laboratories
L = Listed	(TM) = A trademark of Abbott Laboratories

The information and recommendations contained herein are based upon tests believed to be reliable. However, Abbott Laboratories does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform with actual conditions of usage may be required. Abbott Laboratories assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of these data. No freedom from infringement of any patent, copyright or trademark is to be inferred.

Abbott Laboratories – Quality Health Care Worldwide
Agricultural Products. North Chicago IL 60064 (800) 323-9597

ABBOTT LABORATORIES

DiPel® 6AF

Biological Insecticide
Aqueous Flowable

NOT REGISTERED IN CALIFORNIA

Active Ingredient:

Bacillus thuringiensis, subsp. *kurstaki*, 10,750 International Units of Potency per mg (48 Billion International Units per gallon) . . .	2.15%
Inert Ingredients	97.85%

EPA Reg. No. 275-59

EPA Est. No. 33762-IA-1

INDEX:

1.0 Precautionary Statements
1.1 Hazards to Humans
2.0 Directions for Use
3.0 Storage and Disposal
4.0 General Information
5.0 Application Instructions
5.1 Rate for Forests, Trees and Shrubs
6.0 Notice to User

CAUTION:

KEEP OUT OF REACH OF CHILDREN

1.0 PRECAUTIONARY STATEMENTS

1.1 HAZARDS TO HUMANS

Avoid contact with skin, eyes or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.

2.0 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product through any type of irrigation system.

3.0 STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Keep containers tightly closed when not in use. Do not store at temperatures below 0°F or above 90°F. Roll or shake the drum before dispensing.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water when disposing of equipment washwaters.

Container Disposal: Triple rinse (or equivalent), puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

4.0 GENERAL INFORMATION

DIPEL 6AF is a highly selective insecticide for use against listed caterpillars (larvae) of lepidopterous insects. Close scouting and early attention to infestations is highly recommended. Larvae must eat deposits of DiPel 6AF to be affected. Always follow these directions:

- Treat when larvae are young (early instars) before the trees are extensively damaged.
- Larvae must be actively feeding on treated, exposed plant parts.
- Thorough spray coverage is needed to provide a uniform deposit of DiPel 6AF at the site of larval feeding.
- Under heavy pest population pressure, use the higher label rates and/or consider a second application.
- If attempting to control a pest with a single spray, make the treatment when egg hatch is essentially complete, but before extensive crop damage occurs.
- An approved spreader-sticker may be added to diluted tank mixes to improve weather-fastness of the spray deposits. Do not add a sticker to undiluted product.

After eating a lethal dose of DiPel 6AF, larvae stop feeding within the hour and will die within several days. Dying larvae move slowly, discolor, then shrivel, blacken and die.

DiPel 6AF is completely water miscible and may be applied through conventional ground or aerial equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. The volume of water needed per acre will depend on weather, spray equipment and plant canopy type. It is recommended that DiPel 6AF be added to water and not in reverse order. Fill the mix tank with the appropriate quantity of water excluding the anticipated volume of rinse water from containers. Start the mechanical or hydraulic agitation to provide moderate circulation before adding

DiPel 6AF. Add the required volume of DiPel 6AF to the mix tank or plane hopper and continue agitation. Then add rinsate from the original containers. If a spreader-sticker is recommended, add the required amount to the water prior to the addition of DiPel and agitate until uniformly suspended. Mild agitation is sufficient to maintain mixture suspension during loading and spraying. Do not mix more DiPel 6AF that can be used in a 144 hour period.

CAUTION: Rinse and flush spray equipment thoroughly with water following each use.

DiPel 6AF can also be applied undiluted from aircraft for control of Spruce Budworm, Hemlock Looper, Jack Pine Budworm, and Gypsy Moth. It is recommended that rotary or other atomizers be used to provide droplet Volume Mean Diameters (VMD) of 20-80 microns for needle conifers and 50-150 microns for deciduous hardwoods. After prolonged storage, undiluted DiPel 6AF should be recirculated once to redistribute prior to use. During loading and spraying, agitation of the undiluted product is unnecessary and should be avoided.

5.0 APPLICATION INSTRUCTIONS

DiPel 6AF may be used to protect trees and shrubs such as in:

- Forests
- Residential, municipal, and shade tree areas.
- Recreational areas such as campgrounds, golf courses, parks, and parkways.
- Ornamental, shade tree, and forest nurseries.
- Shelterbelts, rights of way, and other easements.

5.1 APPLICATION RATE FOR FORESTS, TREES AND SHRUBS*

Pest	Oz/100 Gal/ Acre[1] (Ground Equip.)	Ounces/ Acre (Aerial[2] Applica.)	BIU'S/A[3]
Bagworm	11 to 21	11 to 21	4 to 8
Blackheaded Budworm	21 to 32	21 to 32	8 to 12
Browntail Moth	21 to 54	21 to 54	8 to 20
California Oakworm	11 to 21	11 to 21	4 to 8
Douglas Fir Tussock Moth	21 to 43	21 to 43	8 to 16
Eastern Pine Looper	32 to 43	32 to 43	12 to 16
Eastern Tent Caterpillar	11 to 21	11 to 21	4 to 8
Elm Spanworm	11 to 21	11 to 21	4 to 8
Fall Webworm	11 to 21	11 to 21	4 to 8
Forest Tent Caterpillar	21 to 43	21 to 43	8 to 16
Fruittree Leafroller	11 to 21	—	4 to 8
Green Striped Maple Worm	21 to 32	21 to 32	8 to 12
Gypsy Moth	21 to 107	21 to 107	8 to 40
Hemlock Looper	32 to 43	32 to 43	12 to 16
Jack Pine Budworm	21 to 43	21 to 43	8 to 16
Mimosa Webworm	11 to 21	—	4 to 8
Oak Leaftier	21 to 32	21 to 32	8 to 12

5.1 APPLICATION RATE FOR FORESTS, TREES AND SHRUBS* (cont.)

Pest	Oz/100 Gal/ Acre[1] (Ground Equip.)	Ounces/ Acre (Aerial[2] Applica.)	BIU'S/A[3]
Pine Butterfly	21 to 32	21 to 32	8 to 12
Redhumped Caterpillar	11 to 21	11 to 21	4 to 8
Saddleback Caterpillar	11 to 21	—	4 to 8
Saddled Prominent Caterpillar	11 to 21	11 to 21	4 to 8
Spring & Fall Cankerworm	11 to 21	11 to 21	4 to 8
Spruce Budworms[4]	11 to 80	11 to 80	4 to 30
Western Tussock Moth	11 to 21	11 to 21	4 to 8

* Forest, shade, sugar maple, trees and shrubs.

[1] Water dilution rate for hydraulic sprayer may be varied depending on coverage. For mist blowers, mix the applicable amount (oz.) in up to 10 gallons of water.

[2] For diluted aerial application, use in up to 10 gallons of water depending on type and density of trees. For best results spray systems which deliver droplet size of 150 microns VMD, or less should be used. NOTE: For Hemlock Looper and Eastern Pine Looper use 1-2 applications, undiluted, beginning at peak first instar. When applying two applications, apply each application at a recommended rate of 32 ounces/A. First application is applied at peak first instar and second application is at second instar. For the high rate, i.e. 43 ounces/A, apply single application only at first instar.

[3] Billion International Units per acre.

[4] Use rates greater than 21 ounces in Northern states for heavy populations.

6.0 NOTICE TO USER

Seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.

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AG4636/R2
4/93

Abbott Laboratories -- Quality Health Care Worldwide
Agricultural Products, North Chicago IL 60064 (800) 323-9597

APPENDIX I

MAPS

* General Location
* Treatment Areas
* Medical Facilities

GENERAL LOCATION OF BLACKWATER NATIONAL WILDLIFE REFUGE
AND SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER.

WASHINGTON
ANNAPOLIS
CAMBRIDGE
DORCHESTER
CALVERT
CHARLES
ST. MARYS
TALBOT
QUEEN ANNE'S
KENT
ANNE ARUNDEL
PRINCE GEORGES
MONTGOMERY
HOWARD
CARROLL
BALTIMORE
HARFORD
CECIL
WICOMICO
SOMERSET
WORCESTER
ALEXANDRIA
ARLINGTON
BETHESDA
SILVER SPRING
TAKOMA PARK
HYATTSVILLE
COLLEGE PARK
GREENBELT
BOWIE
CROFTON
LARGO
SEAT PLEASANT
SCOTLAND
HILLCREST HEIGHTS
OXON HILL
CLINTON
ALEXANDRIA
MT. VERNON
FORT BELVOIR
ACCOKEEK
BRANDYWINE
WALDORF
WHITE PLAINS
LA PLATA
PORT TOBACCO
CHARLES COUNTY COURTHOUSE
POTOMAC HEIGHTS
INDIAN HEAD
PISCATAWAY
UPPER MARLBORO
MARLBORO
DAVIDSONVILLE
MILLERSVILLE
SEVERNA PARK
ARNOLD
SEVERN
SHERWOOD FOREST
GLEN BURNIE
PASADENA
BROOKLYN PARK
LINTHICUM
BALTIMORE
ESSEX
DUNDALK
TOWSON
PARKVILLE
CATONSVILLE
ELLICOTT CITY
COLUMBIA
LAUREL
BELTSVILLE
GREENBELT
NEW CARROLLTON
LANHAM
SEABROOK
BLADENSBURG
HYATTSVILLE
ANNAPOLIS
EASTPORT
BAY RIDGE
HIGHLAND BEACH
ARUNDEL ON THE BAY
EDGEWATER
GALESVILLE
SHADY SIDE
SOUTH RIVER
MAYO
BEVERLY BEACH
HARWOOD
BAYARD
MARRIOTT HILL
DRURY
GREENOCK
BRISTOL
CHURCHTON
OWENSVILLE
WEST RIVER
FRIENDSHIP
FAIRHAVEN
ROSE HAVEN
NORTH BEACH
CHESAPEAKE BEACH
OWINGS
DUNKIRK
CHANEYVILLE
MOUNT HARMONY
SUNDERLAND
TOWNSHEND
ASHBOX
WESTWOOD
CEDARVILLE
MATTAWOMAN
HORSEHEAD
LOWER MARLBORO
HUNTINGTOWN
POPLAR
WILLOWS
PARRAN
PLUM POINT
DARES BEACH
STOAKLEY
PRINCE FREDERICK
PORT REPUBLIC
GOVERNOR RUN
BARSTOW
BOWENS
CALVERT BEACH
LONG BEACH
ISLAND CREEK
MUTUAL
LUSBY
CHESAPEAKE RANCH ESTATES
DRUM POINT
SOLOMONS
CALIFORNIA
LEONARDTOWN
HOLLYWOOD
LOVEVILLE
MORGANZA
HELEN
SANDGATES
ORAVILLE
OAKVILLE
MECHANICSVILLE
NEWPORT
FAULKNER
ALLENS FRESH
BUDDS CREEK
CHAPTICO
MOUNT VICTORIA
MADDOX
CLEMENTS
DYNARD
OAKLEY
ABELL
COMPTON
REDGATE
HERRMANVILLE
LEXINGTON PARK
HOOPER ISLAND
WINGATE
TODDVILLE
ELLIOTT
CRAPO
LAKESVILLE
BISHOPS HEAD
CROCHERON
NANTICOKE
WHITEHAVEN
MOUNT VERNON
TYASKIN
BIVALVE
COXS CORNER
GREEN HILL
HENRYS CROSSROADS
DRAWBRIDGE
BESTPITCH
SEWARD
BUCKTOWN
WOOLFORD
CHURCH CREEK
TAYLORS ISLAND
VIENNA
SALEM
LINKWOOD
ALEY
EAST NEW MARKET
RHODESDALE
BROOKVIEW
HURLOCK
WILLIAMSBURG
SECRETARY
CORNERVILLE
HUDSON
THOMAS
TRAPPE
OXFORD
BELLEVUE
FAIRBANK
TILGHMAN
TILGHMAN ISLAND
BAR NECK
BLACKWALNUT PT.
NEWCOMB
ROYAL OAK
BOZMAN
EASTON
ST. MICHAELS
WITTMAN
POPLAR ISLAND
SHERWOOD
NEAVITT
CLAIBORNE
MCDANIEL
KENT PT.
KENT ISLAND
MATAPEX
ROMANCOKE
LONGWOODS
CORDOVA
QUEEN ANNE
HILLSBORO
DENTON
HOBBS
ANDERSON
CONCORD
SMITHVILLE
HARMONY
BETHLEHEM
TANYARD
AMERICAN CORNER
PRESTON
CHOPTANK
ELDWOOD
WINDYHILL
MATTHEWS
POTTERS LANDING
TUNIS MILLS
THIRD HAVEN WOODS
CHOPTANK RIVER
HARRIS CREEK
COOK PT.
HOOPER ISLAND
SHARPS ISLAND LIGHTHOUSE
COVE PT. LIGHTHOUSE
CALVERT CLIFFS STATE PARK
PATUXENT NAVAL AIR TEST CENTER
PATUXENT RIVER PARK
PATUXENT RIVER NAVAL AIR MUSEUM
NAVAL ACADEMY
U.S. NAVAL ACADEMY
U.S. GOVT. R.R.
CHARLES COUNTY FAIRGROUNDS
CHARLES COUNTY COMMUNITY COLLEGE
CHARLES COUNTY COURTHOUSE
ST. MARYS RIVER
ST. MARYS RIVER FISH HATCHERY AREA
PATUXENT WILDLIFE RESEARCH CENTER
PATUXENT NATIONAL WILDLIFE REFUGE
PATUXENT RIVER NAVAL AIR STATION
PATUXENT RIVER
PISCATAWAY CREEK
MERKLE WILDLIFE MANAGEMENT AREA
CHELTENHAM WILDLIFE MANAGEMENT AREA
CHESAPEAKE BEACH RAILWAY MUSEUM
CHESAPEAKE BEACH RAILWAY
PATUXENT RIVER PARK
ANNAPOLIS ROYAL MARINA
ANNAPOLIS MARINA
ANNAPOLIS CITY MARINA
HERRING BAY
WEST RIVER
SOUTH RIVER
RHODE RIVER
WEST RIVER
CHESAPEAKE BAY
CHESAPEAKE BAY BRIDGE
CHESAPEAKE BAY BRIDGE-TUNNEL